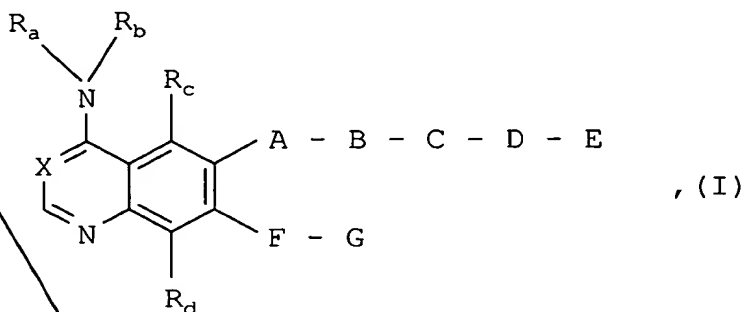


In the Claims

Cancel claims 21 and 22 and rewrite claims 1-20 as they appear on the following pages in clean format. A marked-up version of each of the rewritten claims, showing the changes made, appears in the enclosed document entitled "CLAIM MARK-UP".

11/11/2011 10:11:11 AM

1. (amended) A compound of the formula



wherein

$R_a$  denotes a hydrogen atom or a  $C_{1-4}$ -alkyl group,

$R_b$  denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , whilst

$R_1$  and  $R_2$ , which may be identical or different, in each case denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a  $C_{1-4}$ -alkyl, hydroxy,  $C_{1-4}$ -alkoxy,  $C_{3-6}$ -cycloalkyl,  $C_{4-6}$ -cycloalkoxy,  $C_{2-5}$ -alkenyl or  $C_{2-5}$ -alkynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a  $C_{3-5}$ -alkenyloxy or  $C_{3-5}$ -alkynyloxy group, wherein the unsaturated moiety may not be linked to the oxygen atom,

a  $C_{1-4}$ -alkylsulphenyl,  $C_{1-4}$ -alkylsulphinyl,  $C_{1-4}$ -alkylsulphonyl,  $C_{1-4}$ -alkylsulphonyloxy, trifluoromethylsulphenyl, trifluoromethylsulphinyl or trifluoromethylsulphonyl group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms,

an ethyl or ethoxy group substituted by 1 to 5 fluorine atoms,

a cyano or nitro group or an amino group optionally substituted by one or two  $C_{1-4}$ -alkyl groups, wherein the substituents may be identical or different, or

$R_1$  together with  $R_2$ , if they are bound to adjacent carbon atoms, denote a -CH=CH-CH=CH-, -CH=CH-NH or -CH=N-NH group and

$R_3$  denotes a hydrogen, fluorine, chlorine or bromine atom,

a C<sub>1-4</sub>-alkyl, trifluoromethyl or C<sub>1-4</sub>-alkoxy group,

R<sub>c</sub> and R<sub>d</sub>, which may be identical or different, in each case denote a hydrogen, fluorine or chlorine atom, a methoxy group, or a methyl group optionally substituted by a methoxy, dimethylamino, diethylamino, pyrrolidino, piperidino or morpholino group,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an oxygen atom or an imino group optionally substituted by a C<sub>1-4</sub>-alkyl group,

B denotes a carbonyl or sulphonyl group,

C denotes a 1,3-allenylene, 1,1 or 1,2-vinylene group which may be substituted in each case by one or two methyl groups or by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by 1 to 4 methyl groups or by a trifluoromethyl group,

D denotes an alkylene, -CO-alkylene or -SO<sub>2</sub>-alkylene group wherein the alkylene moiety in each case contains 1 to 8 carbon atoms and additionally 1 to 4 hydrogen atoms in the alkylene moiety may be replaced by fluorine atoms, while the linking of the -CO-alkylene and -SO<sub>2</sub>-alkylene group to the adjacent group C in each case must take place via the carbonyl or sulphonyl group,

a -CO-O-alkylene, -CO-NR<sub>4</sub>-alkylene or -SO<sub>2</sub>-NR<sub>4</sub>-alkylene group wherein the alkylene moiety in each case contains 1 to 8 carbon atoms, whilst the linking to the adjacent group C in each case must take place via the carbonyl or sulphonyl group, wherein

R<sub>4</sub> denotes a hydrogen atom or a C<sub>1-4</sub>-alkyl group,

or, if D is bound to a carbon atom of the group E, it may also denote a bond,

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl or sulphonyl group,

E denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub>-group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 6 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, wherein

$R_5$  denotes a hydrogen atom,

a  $C_{1-4}$ -alkyl group, which may be substituted by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$  or  $(R_7O-PO-R_9)$  group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups, which may be terminally substituted in each case by a  $C_{1-6}$ -alkylcarbonylsulphenyl,  $C_{3-7}$ -cycloalkylcarbonylsulphenyl,  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkylcarbonylsulphenyl, arylcarbonylsulphenyl or aryl- $C_{1-3}$ -alkylcarbonylsulphenyl group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted in each case by a  $C_{1-6}$ -alkylcarbonyloxy,  $C_{3-7}$ -cycloalkylcarbonyloxy,  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkylcarbonyloxy, arylcarbonyloxy or aryl- $C_{1-3}$ -alkylcarbonyloxy group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups, each of which may be terminally substituted by a hydroxy,  $C_{1-4}$ -alkoxy, amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N- $(C_{1-4}$ -alkyl)-imino group,

a  $C_{3-7}$ -cycloalkyl or  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkyl group,

$R_6$ ,  $R_7$  and  $R_8$ , which may be identical or different, in each case denote a hydrogen atom,

a  $C_{1-8}$ -alkyl group, which may be substituted by a hydroxy,  $C_{1-4}$ -alkoxy, amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom or by a sulphinyl, sulphonyl, imino or N- $(C_{1-4}$ -alkyl)-imino group,

a  $C_{4-7}$ -cycloalkyl group optionally substituted by 1 or 2 methyl groups,

a  $C_{3-5}$ -alkenyl or  $C_{3-5}$ -alkynyl group, wherein the unsaturated moiety may not be linked to the oxygen atom,

a  $C_{3-7}$ -cycloalkyl- $C_{1-4}$ -alkyl, aryl, aryl- $C_{1-4}$ -alkyl or  $R_gCO-O-(R_eCR_f)$ -group, whilst

$R_e$  and  $R_f$ , which may be identical or different, each denote a hydrogen atom or a  $C_{1-4}$ -alkyl group and

$R_g$  denotes a  $C_{1-4}$ -alkyl,  $C_{3-7}$ -cycloalkyl,  $C_{1-4}$ -alkoxy or  $C_{5-7}$ -cycloalkoxy group,

and  $R_9$  denotes a  $C_{1-4}$ -alkyl, aryl or aryl- $C_{1-4}$ -alkyl group,

a 4- to 7-membered alkyleneimino group which may be substituted by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two  $R_6OCO$  or  $R_6OCO-C_{1-4}$ -alkyl groups or by an  $R_6OCO$ -group and an  $R_6OCO-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group  $R_{10}$  and additionally at a cyclic carbon atom by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined and

$R_{10}$  denotes a hydrogen atom, a  $C_{1-4}$ -alkyl, formyl,  $C_{1-4}$ -alkylcarbonyl or  $C_{1-4}$ -alkylsulphonyl group,

a piperazino or homopiperazino group which is substituted in the 4 position by the group  $R_{10}$  and additionally at cyclic carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group and additionally at cyclic carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,

(R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group R<sub>10</sub>, while the abovementioned 5- to 7-membered rings are additionally substituted in each case at a carbon atom by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>10</sub> are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group R<sub>10</sub>, while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group, while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by one or two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 4 C<sub>1-2</sub>-alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 4 C<sub>1-2</sub>-alkyl groups,

a morpholino or thiomorpholino group which is substituted in the 2 position by a C<sub>1-4</sub>-alkoxy group,

a morpholino or thiomorpholino group which is substituted in the 2 and 6 position in each case by a C<sub>1-4</sub>-alkoxy group,

a C<sub>1-4</sub>-alkyl-NR<sub>5</sub>-group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a di-(C<sub>1-4</sub>-alkoxy)-methyl or tri-(C<sub>1-4</sub>-alkoxy)-methyl group, while R<sub>5</sub> is as hereinbefore defined,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group optionally substituted by one or two methyl groups, while  $R_5$  is as hereinbefore defined,

an  $R_{11}NR_5$  group wherein  $R_5$  is as hereinbefore defined and

$R_{11}$  denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

A3  
an amino group or an amino group optionally substituted by 1 or 2  $C_{1-4}$ -alkyl groups wherein the alkyl groups may be identical or different and each alkyl moiety may be substituted from position 2 onward by a hydroxy,  $C_{1-4}$ -alkoxy, amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, or by a sulphinyl, sulphonyl, imino or  $N-(C_{1-4}$ -alkyl)-imino group,

a 4- to 7-membered alkyleneimino group optionally substituted by 1 to 4 methyl groups,

a 6- to 7-membered alkyleneimino group optionally substituted by 1 or 2 methyl groups wherein in each case a methylene group in the 4 position is replaced by an oxygen or sulphur atom, by an imino group substituted by the group  $R_{10}$ , by a sulphinyl or sulphonyl group, whilst  $R_{10}$  is as hereinbefore defined,

an imidazolyl group optionally substituted by 1 to 3 methyl groups,

a  $C_{5-7}$ -cycloalkyl group wherein a methylene group is replaced by an oxygen or sulphur atom, by an imino group substituted by the group  $R_{10}$ , by a sulphinyl or sulphonyl group, wherein  $R_{10}$  is as hereinbefore defined,

or D together with E denotes a hydrogen, fluorine or chlorine atom,

a  $C_{1-4}$ -alkyl group optionally substituted by 1 to 5 fluorine atoms,

a  $C_{3-6}$ -cycloalkyl group,

an aryl, heteroaryl,  $C_{1-4}$ -alkylcarbonyl, arylcarbonyl, carboxy,  $C_{1-4}$ -alkoxycarbonyl,  $R_gCO-O-(R_eCR_f)-O-CO$ ,  $(R_7O-PO-OR_8)$  or  $(R_7O-PO-R_9)$ -group wherein  $R_e$  to  $R_g$  and  $R_7$  to  $R_9$  are as hereinbefore defined,

an aminocarbonyl, C<sub>1-4</sub>-alkylaminocarbonyl or di-(C<sub>1-4</sub>-alkyl)-aminocarbonyl group or a carbonyl group, which is substituted by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by an imino group substituted by the group R<sub>10</sub>, by a sulphinyl or sulphonyl group, while R<sub>10</sub> is as hereinbefore defined,

F denotes a C<sub>1-6</sub>-alkylene group, an -O-C<sub>1-6</sub>-alkylene group, whilst the alkylene moiety is linked to the group G, or an oxygen atom, whilst the latter may not be linked to a nitrogen atom of the group G, and

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G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub>-group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 6 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, wherein R<sub>5</sub> to R<sub>9</sub> are as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>10</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at cyclic carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group and is additionally substituted at cyclic carbon atoms by one or



two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

A3 a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings are in each case additionally substituted at a carbon atom by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , whilst the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,

a 2-oxo-morpholinyl group which is substituted in the 4 position by a hydrogen atom, by a  $C_{1-4}$ -alkyl,  $R_6O-CO-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group, wherein  $R_6$  to  $R_9$  are as hereinbefore defined and the abovementioned 2-oxo-morpholinyl groups are each linked to a carbon atom of the group F,

a morpholino or thiomorpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,

a morpholino or thiomorpholino group which is substituted in the 2 and 6 positions by a C<sub>1-4</sub>-alkoxy group,

a C<sub>1-4</sub>-alkyl-NR<sub>5</sub>-group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a di-(C<sub>1-4</sub>-alkoxy)-methyl or tri-(C<sub>1-4</sub>-alkoxy)-methyl group, wherein R<sub>5</sub> is as hereinbefore defined,

AS  
a C<sub>1-4</sub>-alkyl-NR<sub>5</sub> group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group optionally substituted by one or two methyl groups, wherein R<sub>5</sub> is as hereinbefore defined,

a R<sub>h</sub>NR<sub>5</sub>-group wherein R<sub>5</sub> is as hereinbefore defined and R<sub>h</sub> denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl group optionally substituted by one or two methyl groups,

an amino group or an amino group optionally substituted by 1 or 2 C<sub>1-4</sub>-alkyl groups wherein the alkyl groups may be identical or different and each alkyl moiety may be substituted from position 2 onward by a hydroxy, C<sub>1-4</sub>-alkoxy, amino, C<sub>1-4</sub>-alkylamino or di-(C<sub>1-4</sub>-alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, wherein in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C<sub>1-4</sub>-alkyl)-imino group,

a 4- to 7-membered alkyleneimino group optionally substituted by 1 to 4 methyl groups,

a 6- to 7-membered alkyleneimino group optionally substituted by 1 or 2 methyl groups wherein in each case a methylene group in the 4 position is replaced by an oxygen or sulphur atom, by an imino group substituted by the group R<sub>10</sub>, or by a sulphinyl or sulphonyl group, wherein R<sub>10</sub> is as hereinbefore defined,

an imidazolyl group optionally substituted by 1 to 3 methyl groups,

a C<sub>5-7</sub>-cycloalkyl group wherein a methylene group is replaced by an oxygen or sulphur atom, by an imino group substituted by the group R<sub>10</sub>, or by a sulphinyl or sulphonyl group, wherein R<sub>10</sub> is as hereinbefore defined, or

F and G together denote a hydrogen, fluorine or chlorine atom,

a C<sub>1-6</sub>-alkoxy group optionally substituted from position 2 onwards by a hydroxy or C<sub>1-4</sub>-alkoxy group,

A3  
a C<sub>1-6</sub>-alkoxy group which is substituted by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>) or (R<sub>7</sub>O-PO-R<sub>9</sub>)-group, while R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a C<sub>3-7</sub>-cycloalkoxy or C<sub>3-7</sub>-cycloalkyl-C<sub>1-4</sub>-alkoxy group, an amino group optionally substituted by 1 or 2 C<sub>1-4</sub>-alkyl groups,

a 5- to 7-membered alkyleneimino group, wherein in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by an imino group substituted by the group R<sub>10</sub>, or by a sulphinyl or sulphonyl group, while R<sub>10</sub> is as hereinbefore defined,

with the proviso that at least one of the groups E, G or F together with G denotes an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>) or (R<sub>7</sub>O-PO-R<sub>9</sub>)-group or

D together with E contains an R<sub>g</sub>CO-O-(R<sub>c</sub>CR<sub>f</sub>)-O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>) or (R<sub>7</sub>O-PO-R<sub>9</sub>)-group or

E or G contains an optionally substituted 2-oxo-morpholinyl group,

a morpholino or thiomorpholino group substituted in the 2 position or in the 2 and 6 position by a C<sub>1-4</sub>-alkoxy group,

a di-(C<sub>1-4</sub>-alkoxy)-methyl or tri-(C<sub>1-4</sub>-alkoxy)-methyl group or

an optionally substituted 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl-group or

E contains an optionally substituted 2-oxo-thiomorpholino group or an optionally substituted 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl-group,

whilst by the aryl moieties mentioned in the definitions of the abovementioned groups is meant a phenyl group which may in each case be monosubstituted by R<sub>12</sub>, mono, di or trisubstituted by R<sub>13</sub> or monosubstituted by R<sub>12</sub> and additionally mono or disubstituted by R<sub>13</sub>, wherein the substituents may be identical or different and

R<sub>12</sub> denotes a cyano, carboxy, C<sub>1-4</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-4</sub>-alkylaminocarbonyl, di-(C<sub>1-4</sub>-alkyl)-aminocarbonyl, C<sub>1-4</sub>-alkylsulphenyl, C<sub>1-4</sub>-alkylsulphinyl, C<sub>1-4</sub>-alkylsulphonyl, hydroxy, C<sub>1-4</sub>-alkylsulphonyloxy, trifluoromethyloxy, nitro, amino, C<sub>1-4</sub>-alkylamino, di-(C<sub>1-4</sub>-alkyl)-amino, C<sub>1-4</sub>-alkyl-carbonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylcarbonylamino, C<sub>1-4</sub>-alkylsulphonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylsulphonylamino, aminosulphonyl,

C<sub>1-4</sub>-alkylaminosulphonyl or di-(C<sub>1-4</sub>-alkyl)-aminosulphonyl group or a carbonyl group, which is substituted by a 5- to 7-membered alkyleneimino group, wherein in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C<sub>1-4</sub>-alkyl)-imino-group, and

R<sub>13</sub> denotes a fluorine, chlorine, bromine or iodine atom, a C<sub>1-4</sub>-alkyl, trifluoromethyl or C<sub>1-4</sub>-alkoxy group or

two groups R<sub>13</sub>, if they are bound to adjacent carbon atoms, together denote a C<sub>3-5</sub>-alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

and moreover by the heteroaryl groups mentioned in the definitions of the abovementioned groups is meant a 5-membered heteroaromatic group which contains an imino group, an oxygen or sulphur atom or an imino group, an oxygen or sulphur atom and one or two nitrogen atoms, or

a 6-membered heteroaromatic group, which contains one, two or three nitrogen atoms,

whilst the abovementioned 5-membered heteroaromatic groups may be substituted in each case by 1 or 2 methyl or ethyl groups and the abovementioned 6-membered heteroaromatic groups may be substituted in each case by 1 or 2 methyl or ethyl groups or by a fluorine, chlorine, bromine or iodine atom, or by a trifluoromethyl, hydroxy, methoxy or ethoxy group,

or a tautomer or salt thereof.

2. (amended) A compound of the formula I according to claim 1, wherein

R<sub>a</sub> denotes a hydrogen atom,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, while

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a methyl, ethyl, hydroxy, methoxy, ethoxy, amino, cyano, vinyl or ethynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms or

R<sub>1</sub> together with R<sub>2</sub>, if they are bound to adjacent carbon atoms, denote a -CH=CH-CH=CH-, -CH=CH-NH or -CH=N-NH group and

$R_3$  denotes a hydrogen, fluorine, chlorine or bromine atom,

$R_c$  and  $R_d$  in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an imino group optionally substituted by a methyl or ethyl group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group which is substituted in each case by one or two methyl groups or may be substituted by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by a methyl or trifluoromethyl group,

D denotes an alkylene or -CO-alkylene group wherein the alkylene moiety in each case contains 1 to 4 carbon atoms, while the linking of the -CO-alkylene group to the adjacent group C in each case must take place via the carbonyl group,

a -CO-O-alkylene or -CO-NR<sub>4</sub>-alkylene group wherein the alkylene moiety in each case contains 1 to 4 carbon atoms, while the linking to the adjacent group C in each case must take place via the carbonyl group wherein

$R_4$  denotes a hydrogen atom or a methyl or ethyl group,

or, if D is bound to a carbon atom of the group E, it may also denote a bond

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl or sulphonyl group,

E denotes an  $R_6O-CO$ -alkylene-NR<sub>5</sub>, ( $R_7O-PO-OR_8$ )-alkylene-NR<sub>5</sub> or ( $R_7O-PO-R_9$ )-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, while

$R_5$  denotes a hydrogen atom,

a C<sub>1-4</sub>-alkyl group which may be substituted by an  $R_6O-CO$  group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted in each case by a hydroxy, C<sub>1-4</sub>-alkoxy, di-(C<sub>1-4</sub>-alkyl)amino, C<sub>1-6</sub>-alkylcarbonylsulphenyl, C<sub>3-6</sub>-cyclo-

alkylcarbonylsulphenyl, C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkylcarbonylsulphenyl, arylcarbonylsulphenyl or aryl-C<sub>1-3</sub>-alkylcarbonylsulphenyl group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted in each case by a C<sub>1-6</sub>-alkylcarbonyloxy, C<sub>3-6</sub>-cycloalkylcarbonyloxy, C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkylcarbonyloxy, arylcarbonyloxy or aryl-C<sub>1-3</sub>-alkylcarbonyloxy group,

a C<sub>3-6</sub>-cycloalkyl or C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkyl group,

R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub>, which may be identical or different, in each case denote a hydrogen atom,

A<sub>3</sub> a C<sub>1-8</sub>-alkyl group which may be substituted by a hydroxy, C<sub>1-4</sub>-alkoxy, or di-(C<sub>1-4</sub>-alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, while in the abovementioned 6- to 7-membered alkyleneimino groups, in each case a methylene group in the 4 position may be replaced by an oxygen atom or by an N-(C<sub>1-2</sub>-alkyl)-imino group,

a C<sub>4-6</sub>-cycloalkyl group,

a C<sub>3-5</sub>-alkenyl or C<sub>3-5</sub>-alkynyl group, while the unsaturated moiety may not be linked to the oxygen atom,

a C<sub>3-6</sub>-cycloalkyl-C<sub>1-4</sub>-alkyl, aryl, aryl-C<sub>1-4</sub>-alkyl or R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>) group, wherein

R<sub>e</sub> and R<sub>f</sub>, which may be identical or different, in each case denote a hydrogen atom or a C<sub>1-4</sub>-alkyl group and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl, C<sub>3-6</sub>-cycloalkyl, C<sub>1-4</sub>-alkoxy or C<sub>5-6</sub>-cycloalkoxy group,

and R<sub>9</sub> denotes a C<sub>1-4</sub>-alkyl group,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined and

$R_{10}$  denotes a hydrogen atom, a methyl or ethyl group,

a piperazino or homopiperazino group which is substituted in the 4 position by the group  $R_{10}$  and is additionally substituted at cyclic carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group and is additionally substituted at cyclic carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at a carbon atom by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a morpholino group which is substituted in the 2 position by a C<sub>1-4</sub>-alkoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a C<sub>1-4</sub>-alkoxy group,

a C<sub>1-4</sub>-alkyl-NR<sub>5</sub> group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained, is terminally substituted by a di-(C<sub>1-4</sub>-alkoxy)-methyl group, while R<sub>5</sub> is as hereinbefore defined,

A3 a C<sub>1-4</sub>-alkyl-NR<sub>5</sub> group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained, is terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group, while R<sub>5</sub> is as hereinbefore defined,

a R<sub>11</sub>NR<sub>5</sub> group wherein R<sub>5</sub> is as hereinbefore defined and

R<sub>11</sub> denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

or D together with E denotes a hydrogen atom,

a methyl, trifluoromethyl, aryl, R<sub>e</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>)-O-CO or (R<sub>7</sub>O-PO-OR<sub>8</sub>) group wherein R<sub>e</sub> to R<sub>g</sub> and R<sub>7</sub> and R<sub>8</sub> are as hereinbefore defined,

F denotes an -O-C<sub>1-4</sub>-alkylene group, wherein the alkylene moiety is linked to the group G, or an oxygen atom, while this may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>5</sub> to R<sub>9</sub> are as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,



a piperazino or homopiperazino group which is substituted in the 4 position by the group  $R_{10}$  and is additionally substituted at a cyclic carbon atom by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group  $R_{10}$  and is additionally substituted at cyclic carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group and additionally at cyclic carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at a carbon atom by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,

a 2-oxo-morpholinyl group which is substituted in the 4 position by a  $C_{1-4}$ -alkyl or  $R_6O-CO-C_{1-4}$ -alkyl group, while  $R_6$  is as hereinbefore defined and the abovementioned 2-oxo-morpholinyl groups in each case are linked to a carbon atom of the group F,

a morpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a  $C_{1-4}$ -alkoxy group,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a di- $(C_{1-4}$ -alkoxy)-methyl group, while  $R_5$  is as hereinbefore defined,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group, while  $R_5$  is as hereinbefore defined,

a  $R_hNR_5$  group wherein  $R_5$  is as hereinbefore defined and  $R_h$  denotes a substituted 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl group optionally by one or two methyl groups, or

F and G together denote a hydrogen atom,

a  $C_{1-4}$ -alkoxy group optionally substituted from position 2 onwards by a hydroxy or  $C_{1-4}$ -alkoxy group,

a  $C_{1-4}$ -alkoxy group which is substituted by an  $R_6O-CO$  group, where  $R_6$  is as hereinbefore defined, or

a  $C_{4-7}$ -cycloalkoxy or  $C_{3-7}$ -cycloalkyl- $C_{1-4}$ -alkoxy group

with the proviso that at least one of the groups E, G or F together with G denotes an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$  or  $(R_7O-PO-R_9)$  group or

D together with E denotes an  $R_8CO-O-(R_eCR_f)-O-CO$  or  $(R_7O-PO-OR_8)$  group or

E or G denotes an optionally substituted 2-oxo-morpholinyl group,

a morpholino group substituted in the 2 position or in the 2 and 6 positions in each case by a  $C_{1-4}$ -alkoxy group,

a di- $(C_{1-4}$ -alkoxy)-methyl group or

an optionally substituted 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl group or

E contains an optionally substituted 2-oxo-thiomorpholino group or an optionally substituted 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group,

while the aryl moieties mentioned in the definition of the abovementioned groups denote a phenyl group which may in each case be monosubstituted by  $R_{12}$ , mono- or disubstituted by  $R_{13}$  or monosubstituted by  $R_{12}$  and additionally mono- or disubstituted by  $R_{13}$ , wherein the substituents may be identical or different and

$R_{12}$  denotes a cyano,  $C_{1-2}$ -alkoxycarbonyl, aminocarbonyl,  $C_{1-2}$ -alkylaminocarbonyl, di- $(C_{1-2}$ -alkyl)-aminocarbonyl,  $C_{1-2}$ -alkylsulphenyl,  $C_{1-2}$ -alkylsulphinyl,  $C_{1-2}$ -alkylsulphonyl, hydroxy, nitro, amino,  $C_{1-2}$ -alkylamino or di- $(C_{1-2}$ -alkyl)-amino group and

$R_{13}$  denotes a fluorine, chlorine, bromine or iodine atom, a  $C_{1-2}$ -alkyl, trifluoromethyl or  $C_{1-2}$ -alkoxy group or

two groups  $R_{13}$ , if they are bound to adjacent carbon atoms, together denote a  $C_{3-5}$ -alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

3. (amended) A compound of the formula I according to claim 1, wherein

$R_a$  denotes a hydrogen atom,

$R_b$  denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , while

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom, or a methyl, trifluoromethyl, methoxy, ethynyl or cyano group,

$R_3$  denotes a hydrogen atom,

$R_c$  and  $R_d$  in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group,

D denotes a C<sub>1-4</sub>-alkylene group,

a -CO-NR<sub>4</sub>-alkylene group wherein the alkylene moiety contains 2 to 4 carbon atoms, while the linking to the adjacent group C in each case must take place via the carbonyl group, wherein

R<sub>4</sub> denotes a hydrogen atom,

or, if D is bound to a carbon atom of the group E, it may also denote a bond

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl group,

E denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while

R<sub>5</sub> denotes a hydrogen atom,

a C<sub>1-4</sub>-alkyl group which may be substituted by an R<sub>6</sub>O-CO group,

an ethyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted by a C<sub>1-4</sub>-alkylcarbonylsulphenyl, arylcarbonylsulphenyl or arylmethylcarbonylsulphenyl group,

an ethyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted by a hydroxy, C<sub>1-4</sub>-alkylcarbonyloxy, arylcarbonyloxy or arylmethylcarbonyloxy group,

a 2,2-dimethoxyethyl or 2,2-diethoxyethyl group,

a C<sub>3-6</sub>-cycloalkyl or C<sub>3-6</sub>-cycloalkyl-methyl group,

$R_6$ ,  $R_7$  and  $R_8$ , which may be identical or different, in each case denote a hydrogen atom,

a  $C_{1-8}$ -alkyl group,

a cyclopentyl, cyclopentylmethyl, cyclohexyl or cyclohexylmethyl group,

an aryl, arylmethyl or  $R_gCO-O-(R_eCR_f)$  group, while

$R_e$  denotes a hydrogen atom or a  $C_{1-4}$ -alkyl group,

$R_f$  denotes a hydrogen atom and

$R_g$  denotes a  $C_{1-4}$ -alkyl, cyclopentyl, cyclohexyl,  $C_{1-4}$ -alkoxy, cyclopentyloxy or cyclohexyloxy group,

and  $R_9$  denotes a methyl or ethyl group,

a pyrrolidino or piperidino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a piperazino group which is substituted in the 4 position by the group  $R_{10}$  and is additionally substituted at a cyclic carbon atom by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, wherein  $R_6$  is as hereinbefore defined and

$R_{10}$  denotes a hydrogen atom, a methyl or ethyl group,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-2}$ -alkyl group and is additionally substituted at a cyclic carbon atom by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a morpholino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, while  $R_6$  is as hereinbefore defined,

a piperidinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 or 2  $C_{1-2}$ -alkyl groups,

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a 2-oxo-thiomorpholino group which may be substituted by 1 or 2 C<sub>1-2</sub>-alkyl groups,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl-NR<sub>5</sub>, 2,2-diethoxyethyl-NR<sub>5</sub>, 1,3-dioxolan-2-yl-methyl-NR<sub>5</sub> or 1,3-dioxan-2-yl-methyl-NR<sub>5</sub> group wherein R<sub>5</sub> is as hereinbefore defined,

a N-methyl-R<sub>11</sub>N or N-ethyl-R<sub>11</sub>N group wherein

R<sub>11</sub> denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

or D together with E denotes a hydrogen atom,

a methyl, trifluoromethyl, aryl, R<sub>g</sub>CO-O-(R<sub>c</sub>CR<sub>f</sub>)-O-CO or (R<sub>7</sub>O-PO-OR<sub>8</sub>) group wherein R<sub>c</sub> to R<sub>g</sub> and R<sub>7</sub> and R<sub>8</sub> are as hereinbefore defined,

F denotes an -O-C<sub>1-4</sub>-alkylene group, while the alkylene moiety is linked to the group G, or an oxygen atom, which may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub> group wherein the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>5</sub> and R<sub>6</sub> are as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO, or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>6</sub> and R<sub>10</sub> are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-2}$ -alkyl group and additionally at a cyclic carbon atom by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a morpholino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, while  $R_6$  is as hereinbefore defined,

A<sup>3</sup> a piperidinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,

a 2-oxo-morpholinyl group which is substituted in the 4 position by a methyl, ethyl or  $R_6O-CO-C_{1-2}$ -alkyl group, while  $R_6$  is as hereinbefore defined and the abovementioned 2-oxo-morpholinyl groups are each linked to a carbon atom of the group F,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

B a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl- $NR_5$ , 2,2-diethoxyethyl- $NR_5$ , 1,3-dioxolan-2-yl-methyl- $NR_5$  or 1,3-dioxan-2-yl-methyl- $NR_5$ - group or

F and G together denote a hydrogen atom,

a methoxy or ethoxy group,

a  $C_{1-3}$ -alkoxy group which is substituted by an  $R_6O-CO$  group, while  $R_6$  is as hereinbefore defined,

a  $C_{4-6}$ -cycloalkoxy or  $C_{3-6}$ -cycloalkyl- $C_{1-3}$ -alkoxy group

with the proviso that at least one of the groups E, G or F together with G denotes an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$  or  $(R_7O-PO-R_9)$  group or

D together with E denotes an  $R_gCO-O-(R_eCR_f)-O-CO$  or  $(R_7O-PO-OR_8)$  group or

E or G denote an optionally substituted 2-oxo-morpholinyl group,

a morpholino group substituted in the 2 position or in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxymethyl or 2,2-diethoxymethyl group or

an optionally substituted 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl- group or

E contains an optionally substituted 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-thiomorpholino, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group,

while the aryl moieties mentioned in the definition of the abovementioned groups denote a phenyl group which may be mono- or disubstituted by  $R_{13}$ , while the substituents may be identical or different and

$R_{13}$  denotes a fluorine, chlorine, bromine or iodine atom, a  $C_{1-2}$ -alkyl, trifluoromethyl or  $C_{1-2}$ -alkoxy group or

two groups  $R_{13}$ , if they are bound to adjacent carbon atoms, together denote a  $C_{3-4}$ -alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

4. (amended) A compound of the formula I according to claim 1, wherein

$R_a$  denotes a hydrogen atom,

$R_b$  denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , wherein

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom or a methyl group and

$R_3$  denotes a hydrogen atom,

$R_c$  and  $R_d$  each denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,



B denotes a carbonyl group,

C denotes a 1,2-vinylene or an ethynylene group,

D denotes a C<sub>1-4</sub>-alkylene group,

a -CO-NR<sub>4</sub>-alkylene group wherein the alkylene moiety contains 2 or 3 carbon atoms, while the linking to the adjacent group C must take place via the carbonyl group wherein

R<sub>4</sub> denotes a hydrogen atom,

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl group,

E denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 2 carbon atoms, may additionally be substituted by a methyl group or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-methyl group, while

R<sub>5</sub> denotes a hydrogen atom,

a C<sub>1-2</sub>-alkyl group which may be substituted by an R<sub>6</sub>O-CO group,

an ethyl group optionally substituted by one or two methyl groups, which is terminally substituted by a hydroxy, C<sub>1-2</sub>-alkylcarbonylsulphenyl or C<sub>1-2</sub>-alkylcarbonyloxy group,

a 2,2-dimethoxyethyl or 2,2-diethoxyethyl group,

R<sub>6</sub> denotes a hydrogen atom,

a C<sub>1-8</sub>-alkyl group,

a cyclopentyl, cyclopentylmethyl, cyclohexyl or cyclohexylmethyl group,

a phenyl group optionally substituted by one or two methyl groups, a phenylmethyl group which may be substituted in the phenyl moiety by one or two methyl groups, a 5-indanyl group or an R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>) group, while

R<sub>e</sub> denotes a hydrogen atom or a methyl group,

R<sub>f</sub> denotes a hydrogen atom and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl or C<sub>1-2</sub>-alkoxy group,

$R_7$  and  $R_8$ , which may be identical or different, each denote a hydrogen atom, a methyl, ethyl or phenyl group,

a pyrrolidino or piperidino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO$ -methyl group, wherein  $R_6$  is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO$ -methyl groups wherein  $R_6$  is as hereinbefore defined,

A3 a piperazino group which is substituted in the 4 position by the group  $R_{10}$  and additionally at a cyclic carbon atom by an  $R_6O-CO$  group, while  $R_6$  is as hereinbefore defined and

$R_{10}$  denotes a hydrogen atom, a methyl or ethyl group,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO$ -methyl group and additionally at a cyclic carbon atom by an  $R_6O-CO$  group wherein  $R_6$  is as hereinbefore defined,

a morpholino group which is substituted by an  $R_6O-CO$ - group, while  $R_6$  is as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl- $NR_5$ , 2,2-diethoxyethyl- $NR_5$  or 1,3-dioxolan-2-yl-methyl- $NR_5$ -group wherein  $R_5$  is as hereinbefore defined,

an N-methyl- $R_{11}N$  or N-ethyl- $R_{11}N$  group wherein

$R_{11}$  denotes a 2-oxo-tetrahydrofuran-3-yl or 2-oxo-tetrahydrofuran-4-yl group,

or D together with E denotes a hydrogen atom,

a methyl group or an  $R_g\text{CO-O-(R}_e\text{CR}_f\text{)-O-CO}$  group wherein  $R_e$  to  $R_g$  are as hereinbefore defined,

F denotes a  $\text{-O-C}_{1-4}\text{-alkylene}$  group, while the alkylene moiety is linked to the group G, or an oxygen atom, which may not be linked to a nitrogen atom of the group G, and

G denotes an  $R_6\text{O-CO-alkylene-NR}_5$  group wherein the alkylene moiety, which is straight-chained and contains 1 or 2 carbon atoms, may additionally be substituted by a methyl group or by an  $R_6\text{O-CO}$  or  $R_6\text{O-CO-methyl}$  group, while  $R_5$  and  $R_6$  are as hereinbefore defined,

A3 a pyrrolidino or piperidino group which is substituted by an  $R_6\text{O-CO}$  or  $R_6\text{O-CO-methyl}$  group wherein  $R_6$  is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two  $R_6\text{O-CO}$  or  $R_6\text{O-CO-methyl}$  groups wherein  $R_6$  is as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an  $R_6\text{O-CO-C}_{1-4}\text{-alkyl}$ , bis- $(R_6\text{O-CO})\text{-C}_{1-4}\text{-alkyl}$  or  $(R_7\text{O-PO-OR}_8)\text{-C}_{1-2}\text{-alkyl}$  group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a piperidinyl group substituted in the 1 position by an  $R_6\text{O-CO-C}_{1-2}\text{-alkyl}$  group wherein  $R_6$  is as hereinbefore defined, or

F and G together denote a hydrogen atom,

a methoxy or ethoxy group,

a  $\text{C}_{4-6}\text{-cycloalkoxy}$  or  $\text{C}_{3-6}\text{-cycloalkyl-C}_{1-3}\text{-alkoxy}$  group,

with the proviso that at least one of the groups E or G denotes an  $R_6\text{O-CO}$  or  $(R_7\text{O-PO-OR}_8)$  group or

D together with E denotes an  $R_g\text{CO-O-(R}_e\text{CR}_f\text{)-O-CO}$  group or

E contains an optionally substituted 2-oxo-morpholinyl group,

a morpholino group substituted in the 2 position or in the 2 and 6 positions in each case by a methoxy or ethoxy group,

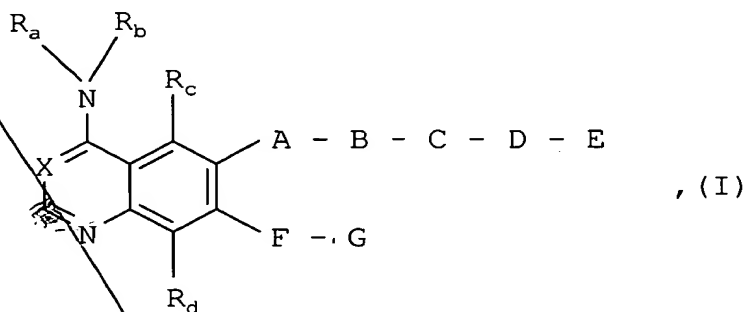
a 2,2-dimethoxymethyl or 2,2-diethoxymethyl group or

a 1,3-dioxolan-2-yl, 2-oxo-tetrahydrofuran-3-yl or 2-oxo-tetrahydrofuran-4-yl group or

an optionally substituted 2-oxo-thiomorpholino group,

or a tautomer or salt thereof.

5. (amended) A compound of the of general formula



wherein

R<sub>a</sub> denotes a hydrogen atom or a C<sub>1-4</sub>-alkyl group,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, whilst

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, in each case denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a C<sub>1-4</sub>-alkyl, hydroxy, C<sub>1-4</sub>-alkoxy, C<sub>3-6</sub>-cycloalkyl, C<sub>4-6</sub>-cycloalkoxy, C<sub>2-5</sub>-alkenyl or C<sub>2-5</sub>-alkynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a C<sub>3-5</sub>-alkenyloxy or C<sub>3-5</sub>-alkynyloxy group, wherein the unsaturated moiety may not be linked to the oxygen atom,

a C<sub>1-4</sub>-alkylsulphenyl, C<sub>1-4</sub>-alkylsulphinyl, C<sub>1-4</sub>-alkylsulphonyl, C<sub>1-4</sub>-alkylsulphonyloxy, trifluoromethylsulphenyl, trifluoromethylsulphinyl or trifluoromethylsulphonyl group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms,

an ethyl or ethoxy group substituted by 1 to 5 fluorine atoms,

a cyano or nitro group or an amino group optionally substituted by one or two C<sub>1-4</sub>-alkyl groups, wherein the substituents may be identical or different, or

*Sub B1*  
*A3*  
R<sub>1</sub> together with R<sub>2</sub>, if they are bound to adjacent carbon atoms, denote a -CH=CH-CH=CH, -CH=CH-NH or -CH=N-NH group and

R<sub>3</sub> denotes a hydrogen, fluorine, chlorine or bromine atom,

a C<sub>1-4</sub>-alkyl, trifluoromethyl or C<sub>1-4</sub>-alkoxy group,

R<sub>c</sub> and R<sub>d</sub>, which may be identical or different, in each case denote a hydrogen, fluorine or chlorine atom, a methoxy group, or a methyl group optionally substituted by a methoxy, dimethylamino, diethylamino, pyrrolidino, piperidino or morpholino group,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an oxygen atom or an imino group optionally substituted by a C<sub>1-4</sub>-alkyl group,

B denotes a carbonyl or sulphonyl group,

C denotes a 1,3-allenylene, 1,1 or 1,2-vinylene group which may be substituted in each case by one or two methyl groups or by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by 1 to 4 methyl groups or by a trifluoromethyl group,

D denotes an alkylene, -CO-alkylene or -SO<sub>2</sub>-alkylene group wherein the alkylene moiety in each case contains 1 to 8 carbon atoms and additionally 1 to 4 hydrogen atoms in the alkylene moiety may be replaced by fluorine atoms, whilst the linking of the -CO-alkylene and -SO<sub>2</sub>-alkylene group to the adjacent group C in each case must take place via the carbonyl or sulphonyl group,

a -CO-O-alkylene, -CO-NR<sub>4</sub>-alkylene or -SO<sub>2</sub>-NR<sub>4</sub>-alkylene group wherein the alkylene moiety in each case contains 1 to 8 carbon atoms, whilst the linking to the adjacent group C in each case must take place via the carbonyl or sulphonyl group wherein

R<sub>4</sub> denotes a hydrogen atom or a C<sub>1-4</sub>-alkyl group,

or, if D is bound to a carbon atom of the group E, it may also denote a bond

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl or sulphonyl group,

E denotes an  $R_6O-CO$ -alkylene- $NR_5$ ,  $(R_7O-PO-OR_8)$ -alkylene- $NR_5$  or  $(R_7O-PO-R_9)$ -alkylene- $NR_5$ -group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 6 carbon atoms, may additionally be substituted by one or two  $C_{1-2}$ -alkyl groups or by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, wherein

$R_5$  denotes a hydrogen atom,

a  $C_{1-4}$ -alkyl group, which may be substituted by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$  or  $(R_7O-PO-R_9)$  group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups, which may be terminally substituted in each case by a  $C_{1-6}$ -alkylcarbonylsulphenyl,  $C_{3-7}$ -cycloalkylcarbonylsulphenyl,  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkylcarbonylsulphenyl, arylcarbonylsulphenyl or aryl- $C_{1-3}$ -alkylcarbonylsulphenyl group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which may be terminally substituted in each case by a  $C_{1-6}$ -alkylcarbonyloxy,  $C_{3-7}$ -cycloalkylcarbonyloxy,  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkylcarbonyloxy, arylcarbonyloxy or aryl- $C_{1-3}$ -alkylcarbonyloxy group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups, each of which may be terminally substituted by a hydroxy,  $C_{1-4}$ -alkoxy, amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N- $(C_{1-4}$ -alkyl)-imino group,

a  $C_{3-7}$ -cycloalkyl or  $C_{3-7}$ -cycloalkyl- $C_{1-3}$ -alkyl group,

$R_6$ ,  $R_7$  and  $R_8$ , which may be identical or different, in each case denote a hydrogen atom,

a  $C_{1-8}$ -alkyl group, which may be substituted by a hydroxy,  $C_{1-4}$ -alkoxy, amino,  $C_{1-4}$ -alkylamino or di- $(C_{1-4}$ -alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom or by a sulphinyl, sulphonyl, imino or N- $(C_{1-4}$ -alkyl)-imino group,

a  $C_{4-7}$ -cycloalkyl group optionally substituted by 1 or 2 methyl groups,

a  $C_{3-5}$ -alkenyl or  $C_{3-5}$ -alkynyl group, wherein the unsaturated part may not be linked to the oxygen atom,

a C<sub>3-7</sub>-cycloalkyl-C<sub>1-4</sub>-alkyl, aryl, aryl-C<sub>1-4</sub>-alkyl or R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>)-group, whilst

R<sub>e</sub> and R<sub>f</sub>, which may be identical or different, in each case denote a hydrogen atom or a C<sub>1-4</sub>-alkyl group and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl, C<sub>3-7</sub>-cycloalkyl, C<sub>1-4</sub>-alkoxy or C<sub>5-7</sub>-cycloalkoxy group,

and R<sub>9</sub> denotes a C<sub>1-4</sub>-alkyl, aryl or aryl-C<sub>1-4</sub>-alkyl group,

a 4- to 7-membered alkyleneimino group which may be substituted by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>OCO or R<sub>6</sub>OCO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>OCO-group and an R<sub>6</sub>OCO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined and

R<sub>10</sub> denotes a hydrogen atom, a C<sub>1-4</sub>-alkyl, formyl, C<sub>1-4</sub>-alkylcarbonyl or C<sub>1-4</sub>-alkylsulphonyl group,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at cyclic carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group and is additionally substituted at cyclic carbon atoms by one or

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two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , whilst the abovementioned 5- to 7-membered rings are additionally substituted in each case at a carbon atom by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a morpholino or thiomorpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,

a morpholino or thiomorpholino group which is substituted in the 2 and 6 positions by a  $C_{1-4}$ -alkoxy group,



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a C<sub>1-4</sub>-alkyl-NR<sub>5</sub>-group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a di-(C<sub>1-4</sub>-alkoxy)-methyl or tri-(C<sub>1-4</sub>-alkoxy)-methyl group, whilst R<sub>5</sub> is as hereinbefore defined,

a C<sub>1-4</sub>-alkyl-NR<sub>5</sub>-group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group optionally substituted by one or two methyl groups, while R<sub>5</sub> is as hereinbefore defined,

an R<sub>11</sub>NR<sub>5</sub>-group wherein R<sub>5</sub> is as hereinbefore defined and

R<sub>11</sub> denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

or D together with E denotes an R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>)-O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>) or (R<sub>7</sub>O-PO-R<sub>9</sub>)-group wherein R<sub>e</sub> to R<sub>g</sub> and R<sub>7</sub> to R<sub>9</sub> are as hereinbefore defined,

F and G together denote a hydrogen atom,

a C<sub>1-6</sub>-alkoxy group optionally substituted from position 2 onwards by a hydroxy or C<sub>1-4</sub>-alkoxy group,

a C<sub>3-7</sub>-cycloalkoxy or C<sub>3-7</sub>-cycloalkyl-C<sub>1-4</sub>-alkoxy group,

whilst by the aryl moieties mentioned in the definitions of the abovementioned groups is meant a phenyl group which in each case may be monosubstituted by R<sub>12</sub>, mono-, di- or trisubstituted by R<sub>13</sub> or monosubstituted by R<sub>12</sub> and additionally mono- or disubstituted by R<sub>13</sub>, whilst the substituents may be identical or different and

R<sub>12</sub> denotes a cyano, carboxy, C<sub>1-4</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-4</sub>-alkylaminocarbonyl, di-(C<sub>1-4</sub>-alkyl)-aminocarbonyl, C<sub>1-4</sub>-alkylsulphenyl, C<sub>1-4</sub>-alkylsulphinyl, C<sub>1-4</sub>-alkylsulphonyl, hydroxy, C<sub>1-4</sub>-alkylsulphonyloxy, trifluoromethyloxy, nitro, amino, C<sub>1-4</sub>-alkylamino, di-(C<sub>1-4</sub>-alkyl)-amino, C<sub>1-4</sub>-alkyl-carbonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylcarbonylamino, C<sub>1-4</sub>-alkylsulphonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylsulphonylamino, aminosulphonyl, C<sub>1-4</sub>-alkylaminosulphonyl or di-(C<sub>1-4</sub>-alkyl)-aminosulphonyl group or a carbonyl group, which is substituted by a 5- to 7-membered alkyleneimino group, wherein in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C<sub>1-4</sub>-alkyl)-imino-group, and

R<sub>13</sub> denotes a fluorine, chlorine, bromine or iodine atom, a C<sub>1-4</sub>-alkyl, trifluoromethyl or C<sub>1-4</sub>-alkoxy group or

two groups  $R_{13}$ , if they are bound to adjacent carbon atoms, together denote a  $C_{3-5}$ -alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

6. (amended) A compound of the formula I according to claim 5, wherein

$R_a$  denotes a hydrogen atom,

$R_b$  denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , while

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a methyl, ethyl, hydroxy, methoxy, ethoxy, amino, cyano, vinyl or ethynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms or

$R_1$  together with  $R_2$ , if they are bound to adjacent carbon atoms, denote a  $-CH=CH-CH=CH-$ ,  $-CH=CH-NH$  or  $-CH=N-NH$  group and

$R_3$  denotes a hydrogen, fluorine, chlorine or bromine atom,

$R_c$  and  $R_d$  in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an imino group optionally substituted by a methyl or ethyl group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group which is substituted in each case by one or two methyl groups or may be substituted by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by a methyl or trifluoromethyl group,

D denotes an alkylene or -CO-alkylene group wherein the alkylene moiety in each case contains 1 to 4 carbon atoms, while the linking of the -CO-alkylene group to the adjacent group C in each case must take place via the carbonyl group,

a -CO-O-alkylene or -CO-NR<sub>4</sub>-alkylene- group wherein the alkylene moiety in each case contains 1 to 4 carbon atoms, while the linking to the adjacent group C in each case must take place via the carbonyl group wherein

R<sub>4</sub> denotes a hydrogen atom or a methyl or ethyl group,

or, if D is bound to a carbon atom of the group E, it may also denote a bond

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl or sulphonyl group,

E denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO- or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while

R<sub>5</sub> denotes a hydrogen atom,

a C<sub>1-4</sub>-alkyl group which may be substituted by an R<sub>6</sub>O-CO group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted in each case by a hydroxy, C<sub>1-4</sub>-alkoxy, di-(C<sub>1-4</sub>-alkyl)amino, C<sub>1-6</sub>-alkylcarbonylsulphenyl, C<sub>3-6</sub>-cyclo-alkylcarbonylsulphenyl, C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkylcarbonylsulphenyl, arylcarbonylsulphenyl or aryl-C<sub>1-3</sub>-alkylcarbonylsulphenyl group,

an ethyl or propyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted in each case by a C<sub>1-6</sub>-alkylcarbonyloxy, C<sub>3-6</sub>-cycloalkylcarbonyloxy, C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkylcarbonyloxy, arylcarbonyloxy or aryl-C<sub>1-3</sub>-alkylcarbonyloxy group,

a C<sub>3-6</sub>-cycloalkyl or C<sub>3-6</sub>-cycloalkyl-C<sub>1-3</sub>-alkyl group,

R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub>, which may be identical or different, in each case denote a hydrogen atom,

a C<sub>1-8</sub>-alkyl group which may be substituted by a hydroxy, C<sub>1-4</sub>-alkoxy, or di-(C<sub>1-4</sub>-alkyl)-amino group or by a 4- to 7-membered alkyleneimino group, while in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen atom or by an N-(C<sub>1-2</sub>-alkyl)-imino group,

a C<sub>4-6</sub>-cycloalkyl group,

a C<sub>3-5</sub>-alkenyl or C<sub>3-5</sub>-alkynyl group, while the unsaturated moiety may not be linked to the oxygen atom,

a C<sub>3-6</sub>-cycloalkyl-C<sub>1-4</sub>-alkyl, aryl, aryl-C<sub>1-4</sub>-alkyl or R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>) group, while

R<sub>e</sub> and R<sub>f</sub>, which may be identical or different, in each case denote a hydrogen atom or a C<sub>1-4</sub>-alkyl group and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl, C<sub>3-6</sub>-cycloalkyl, C<sub>1-4</sub>-alkoxy or C<sub>5-6</sub>-cycloalkoxy group,

and R<sub>9</sub> denotes a C<sub>1-4</sub>-alkyl group,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined and

R<sub>10</sub> denotes a hydrogen atom, a methyl or ethyl group,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at cyclic carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> and R<sub>10</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are as hereinbefore defined,

a piperazino or homopiperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group and is additionally substituted at cyclic carbon atoms by one or two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted in each case by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl, or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  is as hereinbefore defined,

a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at a carbon atom by an  $R_6O-CO$ ,  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are as hereinbefore defined,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 4  $C_{1-2}$ -alkyl groups,

a morpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a  $C_{1-4}$ -alkoxy group,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a di- $(C_{1-4}$ -alkoxy)-methyl group, while  $R_5$  is as hereinbefore defined,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group, while  $R_5$  is as hereinbefore defined,

a  $R_{11}NR_5$  group wherein  $R_5$  is as hereinbefore defined and

5.6  
B1  
A5

$R_{11}$  denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

or D together with E denotes an  $R_g\text{CO-O-(R}_e\text{CR}_f\text{)-O-CO}$  or  $(R_7\text{O-PO-OR}_8)$  group wherein  $R_e$  to  $R_g$  and  $R_7$  to  $R_9$  are as hereinbefore defined,

F and G together denote a hydrogen atom,

a  $C_{1-6}$ -alkoxy group optionally substituted from position 2 by a hydroxy or  $C_{1-4}$ -alkoxy group,

a  $C_{4-7}$ -cycloalkoxy or  $C_{3-7}$ -cycloalkyl- $C_{1-4}$ -alkoxy group,

whilst by the aryl moieties mentioned in the definitions of the abovementioned groups is meant a phenyl group which in each case may be monosubstituted by  $R_{12}$ , mono- or disubstituted by  $R_{13}$  or monosubstituted by  $R_{12}$  and additionally mono- or disubstituted by  $R_{13}$ , whilst the substituents may be identical or different and

$R_{12}$  denotes a cyano,  $C_{1-2}$ -alkoxycarbonyl, aminocarbonyl,  $C_{1-2}$ -alkylaminocarbonyl, di- $(C_{1-2}$ -alkyl)-aminocarbonyl,  $C_{1-2}$ -alkylsulphenyl,  $C_{1-2}$ -alkylsulphinyl,  $C_{1-2}$ -alkylsulphonyl, hydroxy, nitro, amino,  $C_{1-2}$ -alkylamino or di- $(C_{1-2}$ -alkyl)-amino, and

$R_{13}$  denotes a fluorine, chlorine, bromine or iodine atom, a  $C_{1-2}$ -alkyl, trifluoromethyl or  $C_{1-2}$ -alkoxy group or

two groups  $R_{13}$ , if they are bound to adjacent carbon atoms, together denote a  $C_{3-5}$ -alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

7. (amended) A compound of the formula I according to claim 5, wherein

$R_a$  denotes a hydrogen atom,

$R_b$  denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , while

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom, or a methyl, trifluoromethyl, methoxy, ethynyl or cyano group,

*Sub*  
*B'*  
*A'*

$R_3$  denotes a hydrogen atom,

$R_c$  and  $R_d$  in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group,

D denotes a  $C_{1-4}$ -alkylene group,

a  $-CO-NR_4$ -alkylene group wherein the alkylene moiety contains 2 to 4 carbon atoms, while the linking to the adjacent group C in each case must take place via the carbonyl group, wherein

$R_4$  denotes a hydrogen atom,

or, if D is bound to a carbon atom of the group E, it may also denote a bond

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl group,

E denotes an  $R_6O-CO$ -alkylene- $NR_5$ ,  $(R_7O-PO-OR_8)$ -alkylene- $NR_5$  or  $(R_7O-PO-R_9)$ -alkylene- $NR_5$  group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two  $C_{1-2}$ -alkyl groups or by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, while

$R_5$  denotes a hydrogen atom,

a  $C_{1-4}$ -alkyl group which may be substituted by an  $R_6O-CO$  group,

an ethyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted by a  $C_{1-4}$ -alkylcarbonylsulphenyl, arylcarbonylsulphenyl or arylmethylcarbonylsulphenyl group,

an ethyl group optionally substituted by one or two methyl or ethyl groups which is terminally substituted by a hydroxy, C<sub>1-4</sub>-alkylcarbonyloxy, arylcarbonyloxy or arylmethylcarbonyloxy group,

a 2,2-dimethoxyethyl or 2,2-diethoxyethyl group,

a C<sub>3-6</sub>-cycloalkyl or C<sub>3-6</sub>-cycloalkyl-methyl group,

R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub>, which may be identical or different, in each case denote a hydrogen atom,

a C<sub>1-8</sub>-alkyl group,

a cyclopentyl, cyclopentylmethyl, cyclohexyl or cyclohexylmethyl group,

an aryl, arylmethyl or R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>) group, wherein

R<sub>e</sub> denotes a hydrogen atom or a C<sub>1-4</sub>-alkyl group,

R<sub>f</sub> denotes a hydrogen atom and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl, cyclopentyl, cyclohexyl, C<sub>1-4</sub>-alkoxy, cyclopentyloxy or cyclohexyloxy group,

and R<sub>9</sub> denotes a methyl or ethyl group,

a pyrrolidino or piperidino group which is substituted by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>6</sub> is as hereinbefore defined and

R<sub>10</sub> denotes a hydrogen atom, a methyl or ethyl group,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> to R<sub>8</sub> are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> is as hereinbefore defined,



a morpholino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO-C_{1-2}$ -alkyl group, while  $R_6$  is as hereinbefore defined,

a piperidinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl- $NR_5$ , 2,2-diethoxyethyl- $NR_5$ , 1,3-dioxolan-2-yl-methyl- $NR_5$  or 1,3-dioxan-2-yl-methyl- $NR_5$  group wherein  $R_5$  is as hereinbefore defined,

a N-methyl- $R_{11}N$  or N-ethyl- $R_{11}N$  group wherein

$R_{11}$  denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl, 2-oxo-tetrahydropyran-5-yl, 2-oxo-tetrahydrothiophen-3-yl, 2-oxo-tetrahydrothiophen-4-yl, 2-oxo-tetrahydrothiopyran-3-yl, 2-oxo-tetrahydrothiopyran-4-yl or 2-oxo-tetrahydrothiopyran-5-yl group optionally substituted by one or two methyl groups,

or D together with E denotes an  $R_gCO-O-(R_cCR_f)-O-CO$  or  $(R_7O-PO-OR_8)$  group wherein  $R_c$  to  $R_g$  and  $R_7$  and  $R_8$  are as hereinbefore defined,

F and G together denote a hydrogen atom, a methoxy, ethoxy,  $C_{4-6}$ -cycloalkoxy or  $C_{3-6}$ -cycloalkyl- $C_{1-3}$ -alkoxy group,

while the aryl moieties mentioned in the definition of the abovementioned groups denote a phenyl group which may be mono- or disubstituted by  $R_{13}$ , while the substituents may be identical or different and

$R_{13}$  denotes a fluorine, chlorine, bromine or iodine atom, a  $C_{1-2}$ -alkyl, trifluoromethyl or  $C_{1-2}$ -alkoxy group or

two groups  $R_{13}$ , if they are bound to adjacent carbon atoms, together denote a  $C_{3-4}$ -alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

8. (amended) A compound of the formula I according to claim 5, wherein

*Sub B1*  
*As*  
R<sub>a</sub> denotes a hydrogen atom,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, wherein

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom or a methyl group and

R<sub>3</sub> denotes a hydrogen atom,

R<sub>c</sub> and R<sub>d</sub> each denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,

B denotes a carbonyl group,

C denotes a 1,2-vinylene or an ethynylene group,

D denotes a C<sub>1-4</sub>-alkylene group,

a -CO-NR<sub>4</sub>-alkylene group wherein the alkylene moiety contains 2 or 3 carbon atoms, while the linking to the adjacent group C must take place via the carbonyl group wherein

R<sub>4</sub> denotes a hydrogen atom,

or, if D is bound to a nitrogen atom of the group E, it may also denote a carbonyl group,

E denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 2 carbon atoms, may additionally be substituted by a methyl group or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-methyl group, while

R<sub>5</sub> denotes a hydrogen atom,

a C<sub>1-2</sub>-alkyl group which may be substituted by an R<sub>6</sub>O-CO group,

Sub B1  
an ethyl group optionally substituted by one or two methyl groups, which is terminally substituted by a hydroxy, C<sub>1-2</sub>-alkylcarbonylsulphenyl or C<sub>1-2</sub>-alkylcarbonyloxy group,

a 2,2-dimethoxyethyl or 2,2-diethoxyethyl group,

R<sub>6</sub> denotes a hydrogen atom,

a C<sub>1-8</sub>-alkyl group,

a cyclopentyl, cyclopentylmethyl, cyclohexyl or cyclohexylmethyl group,

a phenyl group optionally substituted by one or two methyl groups, a phenylmethyl group which may be substituted in the phenyl moiety by one or two methyl groups, a 5-indanyl group or an R<sub>g</sub>CO-O-(R<sub>e</sub>CR<sub>f</sub>) group, while

R<sub>e</sub> denotes a hydrogen atom or a methyl group,

R<sub>f</sub> denotes a hydrogen atom and

R<sub>g</sub> denotes a C<sub>1-4</sub>-alkyl or C<sub>1-2</sub>-alkoxy group,

R<sub>7</sub> and R<sub>8</sub>, which may be identical or different, in each case denote a hydrogen atom, a methyl, ethyl or phenyl group,

a pyrrolidino or piperidino group which is substituted by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-methyl group, wherein R<sub>6</sub> is as hereinbefore defined,

a pyrrolidino or piperidino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-methyl groups wherein R<sub>6</sub> is as hereinbefore defined,

a piperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO group, while R<sub>6</sub> is as hereinbefore defined and

R<sub>10</sub> denotes a hydrogen atom, a methyl or ethyl group,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> to R<sub>8</sub> are as hereinbefore defined,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-methyl group and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO group wherein R<sub>6</sub> is as hereinbefore defined,

a morpholino group which is substituted by an  $R_6O-CO-$  group, wherein  $R_6$  is as hereinbefore defined,

a 2-oxo-morpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a 2-oxo-thiomorpholino group which may be substituted by 1 to 2  $C_{1-2}$ -alkyl groups,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl- $NR_5$ , 2,2-diethoxyethyl- $NR_5$  or 1,3-dioxolan-2-yl-methyl- $NR_5$ -group wherein  $R_5$  is as hereinbefore defined,

an N-methyl- $R_{11}N$  or N-ethyl- $R_{11}N$  group wherein

$R_{11}$  denotes a 2-oxo-tetrahydrofuran-3-yl or 2-oxo-tetrahydrofuran-4-yl group,

or D together with E denotes an  $R_gCO-O-(R_eCR_f)-O-CO$  group wherein  $R_e$  to  $R_g$  are as hereinbefore defined,

F and G together denote a hydrogen atom,

a methoxy, ethoxy,  $C_{4-6}$ -cycloalkoxy or  $C_{3-6}$ -cycloalkyl- $C_{1-3}$ -alkoxy group,

or a tautomer or salt thereof.

9. (amended) A compound of the formula I according to claim 8, wherein  $R_b$  denotes a 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , wherein

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom or a methyl group and

$R_3$  denotes a hydrogen atom,

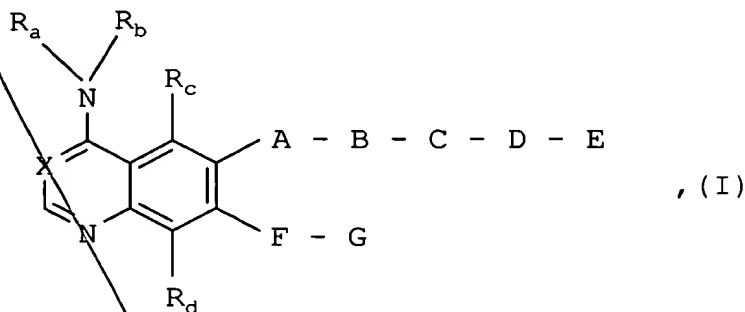
or a tautomer or salt thereof.

10. (amended) A compound of the formula I according to claim 8, wherein F and G together denote a  $C_{4-6}$ -cycloalkoxy or  $C_{3-6}$ -cycloalkyl- $C_{1-3}$ -alkoxy group,

or a tautomer or salt thereof.

11. (amended) A compound of the formula I according to claim 8, wherein E denotes a 2-oxo-morpholino group which may be substituted by 1 to 2 C<sub>1-2</sub>-alkyl groups, or a 2-oxo-thiomorpholino group which may be substituted by 1 to 2 C<sub>1-2</sub>-alkyl groups.

12. (amended) A compound of the formula



AS  
wherein

R<sub>a</sub> denotes a hydrogen atom or a C<sub>1-4</sub>-alkyl group,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, whilst

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, in each case denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a C<sub>1-4</sub>-alkyl, hydroxy, C<sub>1-4</sub>-alkoxy, C<sub>3-6</sub>-cycloalkyl, C<sub>4-6</sub>-cycloalkoxy, C<sub>2-5</sub>-alkenyl or C<sub>2-5</sub>-alkynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a C<sub>3-5</sub>-alkenyloxy or C<sub>3-5</sub>-alkynyloxy group, wherein the unsaturated moiety may not be linked to the oxygen atom,

a C<sub>1-4</sub>-alkylsulphenyl, C<sub>1-4</sub>-alkylsulphinyl, C<sub>1-4</sub>-alkylsulphonyl, C<sub>1-4</sub>-alkylsulphonyloxy, trifluoromethylsulphenyl, trifluoromethylsulphinyl or trifluoromethylsulphonyl group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms,

an ethyl or ethoxy group substituted by 1 to 5 fluorine atoms,

a cyano or nitro group or an amino group optionally substituted by one or two C<sub>1-4</sub>-alkyl groups, wherein the substituents may be identical or different, or

$R_1$  together with  $R_2$ , if they are bound to adjacent carbon atoms, denote a -CH=CH-CH=CH-, -CH=CH-NH or -CH=N-NH group and

$R_3$  denotes a hydrogen, fluorine, chlorine or bromine atom,

a  $C_{1-4}$ -alkyl, trifluoromethyl or  $C_{1-4}$ -alkoxy group,

$R_c$  and  $R_d$ , which may be identical or different, in each case denote a hydrogen, fluorine or chlorine atom, a methoxy group, or a methyl group optionally substituted by a methoxy, dimethylamino, diethylamino, pyrrolidino, piperidino or morpholino group,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an oxygen atom or an imino group optionally substituted by a  $C_{1-4}$ -alkyl group,

B denotes a carbonyl or sulphonyl group,

C denotes a 1,3-allenylene, 1,1 or 1,2-vinylene group which may be substituted in each case by one or two methyl groups or by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by 1 to 4 methyl groups or by a trifluoromethyl group,

D together with E denotes a hydrogen atom,

a  $C_{1-4}$ -alkyl group optionally substituted by 1 to 5 fluorine atoms,

a  $C_{3-6}$ -cycloalkyl group,

an aryl, heteroaryl,  $C_{1-4}$ -alkylcarbonyl, arylcarbonyl or  $C_{1-4}$ -alkoxycarbonyl group,

an aminocarbonyl,  $C_{1-4}$ -alkylaminocarbonyl or di- $(C_{1-4}$ -alkyl)-aminocarbonyl group or

a carbonyl group, which is substituted by a 4- to 7-membered alkyleneimino group, whilst in the abovementioned 6- to 7-membered alkyleneimino groups, a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by an imino group substituted by the group  $R_{10}$ , by a sulphinyl or sulphonyl group, wherein  $R_{10}$  is defined as in claim 1,

F denotes a C<sub>1-6</sub>-alkylene group, a -O-C<sub>1-6</sub>-alkylene group, wherein the alkylene moiety is linked to the group G, or an oxygen atom, whilst the latter may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub>-group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 6 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, wherein R<sub>5</sub> to R<sub>9</sub> are defined as in claim 1,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are defined as in claim 1,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is defined as in claim 1,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>10</sub> are defined as in claim 1,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at cyclic carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are defined as in claim 1,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are defined as in claim 1,

a piperazino or homopiperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group and is additionally substituted at cyclic carbon atoms by one or two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups or by an R<sub>6</sub>O-CO-group and an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are defined as in claim 1,

a morpholino or homomorpholino group which is substituted in each case by an R<sub>6</sub>O-CO, (R<sub>7</sub>O-PO-OR<sub>8</sub>), (R<sub>7</sub>O-PO-R<sub>9</sub>), R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are defined as in claim 1,

~~a morpholino or homomorpholino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  is defined as in claim 1,~~

~~a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , whilst the abovementioned 5- to 7-membered rings are in each case additionally substituted at a carbon atom by an  $R_6O-CO$ ,  $(R_7O-PO-OR_8)$ ,  $(R_7O-PO-R_9)$ ,  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_{10}$  are defined as in claim 1,~~

~~a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  and  $R_{10}$  are defined as in claim 1,~~

~~a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are defined as in claim 1,~~

~~a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings are in each case additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups or by an  $R_6O-CO$ -group and an  $R_6O-CO-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are defined as in claim 1,~~

~~a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,~~

~~a 2-oxo-morpholinyl group which is substituted in the 4 position by a hydrogen atom, by a  $C_{1-4}$ -alkyl,  $R_6O-CO-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group, while  $R_6$  to  $R_9$  are defined as in claim 1 and the abovementioned 2-oxo-morpholinyl groups are in each case linked to a carbon atom of the group F,~~

~~a morpholino or thiomorpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,~~

~~a morpholino or thiomorpholino group which is substituted in the 2 and 6 position by a  $C_{1-4}$ -alkoxy group,~~

~~a  $C_{1-4}$ -alkyl- $NR_5$ -group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is in each case terminally substituted by a di- $(C_{1-4}$ -alkoxy)-methyl or tri- $(C_{1-4}$ -alkoxy)-methyl group, whilst  $R_5$  is defined as in claim 1,~~



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a C<sub>1-4</sub>-alkyl-NR<sub>5</sub>-group wherein the C<sub>1-4</sub>-alkyl moiety, which is straight-chained and may additionally be substituted by one or two methyl groups, is terminally substituted in each case by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl-group optionally substituted by one or two methyl groups, while R<sub>5</sub> is defined as in claim 1,

an R<sub>h</sub>NR<sub>5</sub>-group wherein R<sub>5</sub> is as hereinbefore defined and R<sub>h</sub> denotes a 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl group optionally substituted by one or two methyl groups,

whilst by the aryl moieties mentioned in the definitions of the abovementioned groups is meant a phenyl group which in each case may be monosubstituted by R<sub>12</sub>, mono-, di- or trisubstituted by R<sub>13</sub> or monosubstituted by R<sub>12</sub> and additionally mono- or disubstituted by R<sub>13</sub>, whilst the substituents may be identical or different and

R<sub>12</sub> denotes a cyano, carboxy, C<sub>1-4</sub>-alkoxycarbonyl, aminocarbonyl, C<sub>1-4</sub>-alkylaminocarbonyl, di-(C<sub>1-4</sub>-alkyl)-aminocarbonyl, C<sub>1-4</sub>-alkylsulphenyl, C<sub>1-4</sub>-alkylsulphinyl, C<sub>1-4</sub>-alkylsulphonyl, hydroxy, C<sub>1-4</sub>-alkylsulphonyloxy, trifluoromethyloxy, nitro, amino, C<sub>1-4</sub>-alkylamino, di-(C<sub>1-4</sub>-alkyl)-amino, C<sub>1-4</sub>-alkyl-carbonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylcarbonylamino, C<sub>1-4</sub>-alkylsulphonylamino, N-(C<sub>1-4</sub>-alkyl)-C<sub>1-4</sub>-alkylsulphonylamino, aminosulphonyl, C<sub>1-4</sub>-alkylaminosulphonyl or di-(C<sub>1-4</sub>-alkyl)-aminosulphonyl group or a carbonyl group, which is substituted by a 5- to 7-membered alkyleneimino group, wherein in the abovementioned 6- to 7-membered alkyleneimino groups in each case a methylene group in the 4 position may be replaced by an oxygen or sulphur atom, by a sulphinyl, sulphonyl, imino or N-(C<sub>1-4</sub>-alkyl)-imino group, and

R<sub>13</sub> denotes a fluorine, chlorine, bromine or iodine atom, a C<sub>1-4</sub>-alkyl, trifluoromethyl or C<sub>1-4</sub>-alkoxy group or

two groups R<sub>13</sub>, if they are bound to adjacent carbon atoms, together denote a C<sub>3-5</sub>-alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

and moreover, the heteroaryl groups mentioned in the definitions of the abovementioned groups also include a 5-membered heteroaromatic group which contains an imino group, an oxygen or sulphur atom or an imino group, an oxygen or sulphur atom and one or two nitrogen atoms, or

a 6-membered heteroaromatic group which contains one, two or three nitrogen atoms,

whilst the abovementioned 5-membered heteroaromatic groups may be substituted in each case by 1 or 2 methyl or ethyl groups and the abovementioned 6-membered heteroaromatic groups may be substituted in each case by 1 or 2 methyl or ethyl groups or by a fluorine, chlorine, bromine or iodine atom, or by a trifluoromethyl, hydroxy, methoxy or ethoxy group,

or a tautomer or salt thereof.

13. (amended) A compound of the formula I according to claim 12, wherein

R<sub>a</sub> denotes a hydrogen atom,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, while

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a hydrogen, fluorine, chlorine, bromine or iodine atom,

a methyl, ethyl, hydroxy, methoxy, ethoxy, amino, cyano, vinyl or ethynyl group,

an aryl, aryloxy, arylmethyl or arylmethoxy group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms or

R<sub>1</sub> together with R<sub>2</sub>, if they are bound to adjacent carbon atoms, denote a -CH=CH-CH=CH-, -CH=CH-NH or -CH=N-NH group and

R<sub>3</sub> denotes a hydrogen, fluorine, chlorine or bromine atom,

R<sub>c</sub> and R<sub>d</sub> in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group or a nitrogen atom,

A denotes an imino group optionally substituted by a methyl or ethyl group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group which is substituted in each case by one or two methyl groups or may be substituted by a trifluoromethyl group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group optionally substituted by a methyl or trifluoromethyl group,

D together with E denotes a hydrogen atom,

a methyl, trifluoromethyl or aryl group,

F denotes an -O-C<sub>1-4</sub>-alkylene group, wherein the alkylene moiety is linked to the group G, or an oxygen atom, while this may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub>, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-alkylene-NR<sub>5</sub> or (R<sub>7</sub>O-PO-R<sub>9</sub>)-alkylene-NR<sub>5</sub> group wherein in each case the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>5</sub> to R<sub>9</sub> are defined as in claim 2,

a 4- to 7-membered alkyleneimino group which is substituted by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is defined as in claim 2,

a 4- to 7-membered alkyleneimino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is defined as in claim 2,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at a cyclic carbon atom by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are defined as in claim 2,

a piperazino or homopiperazino group which is substituted in the 4 position by the group R<sub>10</sub> and is additionally substituted at cyclic carbon atoms by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> and R<sub>10</sub> are defined as in claim 2,

a piperazino or homopiperazino group which is substituted in each case in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl, (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-R<sub>9</sub>)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> to R<sub>9</sub> are defined as in claim 2,

a piperazino or homopiperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group and additionally at cyclic carbon atoms by one or two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is defined as in claim 2,

a morpholino or homomorpholino group which is substituted in each case by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> is defined as in claim 2,

a morpholino or homomorpholino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl groups wherein R<sub>6</sub> is defined as in claim 2,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group R<sub>10</sub>, while the abovementioned 5- to 7-membered rings in each case are additionally substituted at a carbon atom by an R<sub>6</sub>O-CO, R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl or bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl group wherein R<sub>6</sub> and R<sub>10</sub> are defined as in claim 2,

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a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by the group  $R_{10}$ , while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  and  $R_{10}$  are defined as in claim 2,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl,  $(R_7O-PO-OR_8)-C_{1-4}$ -alkyl or  $(R_7O-PO-R_9)-C_{1-4}$ -alkyl group wherein  $R_6$  to  $R_9$  are defined as in claim 2,

a pyrrolidinyl, piperidinyl or hexahydroazepinyl group substituted in the 1 position by an  $R_6O-CO-C_{1-4}$ -alkyl or bis- $(R_6O-CO)-C_{1-4}$ -alkyl group, while the abovementioned 5- to 7-membered rings in each case are additionally substituted at carbon atoms by one or two  $R_6O-CO$  or  $R_6O-CO-C_{1-4}$ -alkyl groups wherein  $R_6$  is defined as in claim 2,

a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,

a 2-oxo-morpholinyl group which is substituted in the 4 position by a  $C_{1-4}$ -alkyl or  $R_6O-CO-C_{1-4}$ -alkyl group, while  $R_6$  is defined as in claim 2 and the abovementioned 2-oxo-morpholinyl groups are each are linked to a carbon atom of the group F,

a morpholino group which is substituted in the 2 position by a  $C_{1-4}$ -alkoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a  $C_{1-4}$ -alkoxy group,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a di- $(C_{1-4}$ -alkoxy)-methyl group, while  $R_5$  is defined as in claim 2,

a  $C_{1-4}$ -alkyl- $NR_5$  group wherein the  $C_{1-4}$ -alkyl moiety, which is straight-chained, is terminally substituted by a 1,3-dioxolan-2-yl or 1,3-dioxan-2-yl group, while  $R_5$  is defined as in claim 2,

a  $R_hNR_5$  group wherein  $R_5$  is defined as in claim 2 and  $R_h$  denotes a substituted 2-oxo-tetrahydrofuran-3-yl, 2-oxo-tetrahydrofuran-4-yl, 2-oxo-tetrahydropyran-3-yl, 2-oxo-tetrahydropyran-4-yl or 2-oxo-tetrahydropyran-5-yl group optionally by one or two methyl groups,

while the aryl moieties mentioned in the definition of the abovementioned groups denote a phenyl group which may in each case be monosubstituted by  $R_{12}$ , mono- or disubstituted by  $R_{13}$  or monosubstituted by  $R_{12}$  and additionally mono or disubstituted by  $R_{13}$ , while the substituents may be identical or different and

$R_{12}$  denotes a cyano,  $C_{1-2}$ -alkoxycarbonyl, aminocarbonyl,  $C_{1-2}$ -alkylaminocarbonyl, di- $(C_{1-2}$ -alkyl)-aminocarbonyl,  $C_{1-2}$ -alkylsulphenyl,

~~C<sub>1-2</sub>-alkylsulphinyl, C<sub>1-2</sub>-alkylsulphonyl, hydroxy, nitro, amino, C<sub>1-2</sub>-alkylamino or di-(C<sub>1-2</sub>-alkyl)-amino group and~~

~~R<sub>13</sub> denotes a fluorine, chlorine, bromine or iodine atom, a C<sub>1-2</sub>-alkyl, trifluoromethyl or C<sub>1-2</sub>-alkoxy group or~~

~~two groups R<sub>13</sub>, if they are bound to adjacent carbon atoms, together denote a C<sub>3-5</sub>-alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,~~

~~or a tautomer or salt thereof.~~

14. (amended) A compound of the formula I according to claim 12, wherein

R<sub>a</sub> denotes a hydrogen atom,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, while

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom, or a methyl, trifluoromethyl, methoxy, ethynyl or cyano group,

R<sub>3</sub> denotes a hydrogen atom,

R<sub>c</sub> and R<sub>d</sub> in each case denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,

B denotes a carbonyl group,

C denotes a 1,1- or 1,2-vinylene group,

an ethynylene group or

a 1,3-butadien-1,4-ylene group,

D together with E denotes a hydrogen atom,

a methyl, trifluoromethyl or aryl group,

F denotes an -O-C<sub>1-4</sub>-alkylene group, wherein the alkylene moiety is linked to the group G, or an oxygen atom, while this may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub> group wherein the alkylene moiety, which is straight-chained and contains 1 to 4 carbon atoms, may additionally be substituted by one or two C<sub>1-2</sub>-alkyl groups or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>5</sub> and R<sub>6</sub> are defined as in claim 3,

a pyrrolidino or piperidino group which is substituted by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> is defined as in claim 3,

a pyrrolidino or piperidino group which is substituted by two R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl groups wherein R<sub>6</sub> is defined as in claim 3,

a piperazino group which is substituted in the 4 position by the group R<sub>10</sub> and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO, or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>6</sub> and R<sub>10</sub> are defined as in claim 3,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> to R<sub>8</sub> are defined as in claim 3,

a piperazino group which is substituted in the 4 position by an R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group and additionally at a cyclic carbon atom by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> is defined as in claim 3,

a morpholino group which is substituted by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>6</sub> is defined as in claim 3,

a piperidinyl group substituted in the 1 position by an R<sub>6</sub>O-CO-C<sub>1-4</sub>-alkyl, bis-(R<sub>6</sub>O-CO)-C<sub>1-4</sub>-alkyl or (R<sub>7</sub>O-PO-OR<sub>8</sub>)-C<sub>1-2</sub>-alkyl group wherein R<sub>6</sub> to R<sub>8</sub> are defined as in claim 3,

a 2-oxo-morpholino group which may be substituted by 1 or 2 methyl groups,

a 2-oxo-morpholinyl group which is substituted in the 4 position by a methyl, ethyl or R<sub>6</sub>O-CO-C<sub>1-2</sub>-alkyl group, while R<sub>6</sub> is defined as in claim 3 and the abovementioned 2-oxo-morpholinyl groups in each case are linked to a carbon atom of the group F,

a morpholino group which is substituted in the 2 position by a methoxy or ethoxy group,

a morpholino group which is substituted in the 2 and 6 positions in each case by a methoxy or ethoxy group,

a 2,2-dimethoxyethyl-NR<sub>5</sub>, 2,2-diethoxyethyl-NR<sub>5</sub>, 1,3-dioxolan-2-yl-methyl-NR<sub>5</sub> or 1,3-dioxan-2-yl-methyl-NR<sub>5</sub> group wherein R<sub>5</sub> is defined as in claim 3,

while the aryl moieties mentioned in the definition of the abovementioned groups denote a phenyl group which may be mono- or disubstituted by R<sub>13</sub>, while the substituents may be identical or different and

R<sub>13</sub> denotes a fluorine, chlorine, bromine or iodine atom, a C<sub>1-2</sub>-alkyl, trifluoromethyl or C<sub>1-2</sub>-alkoxy group or

two groups R<sub>13</sub>, if they are bound to adjacent carbon atoms, together denote a C<sub>3,4</sub>-alkylene, methylenedioxy or 1,3-butadien-1,4-ylene group,

or a tautomer or salt thereof.

15. (amended) A compound of the formula I according to claim 12, wherein

R<sub>a</sub> denotes a hydrogen atom,

R<sub>b</sub> denotes a phenyl, benzyl or 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups R<sub>1</sub> to R<sub>3</sub>, wherein

R<sub>1</sub> and R<sub>2</sub>, which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom or a methyl group and

R<sub>3</sub> denotes a hydrogen atom,

R<sub>c</sub> and R<sub>d</sub> each denote a hydrogen atom,

X denotes a methine group substituted by a cyano group, or a nitrogen atom,

A denotes an imino group,

B denotes a carbonyl group,

C denotes a 1,2-vinylene or an ethynylene group,

D together with E denotes a hydrogen atom or a methyl group,

F denotes an -O-C<sub>1-4</sub>-alkylene group, while the alkylene moiety is linked to the group G, or an oxygen atom, which may not be linked to a nitrogen atom of the group G, and

G denotes an R<sub>6</sub>O-CO-alkylene-NR<sub>5</sub> group wherein the alkylene moiety, which is straight-chained and contains 1 or 2 carbon atoms, may additionally be substituted by a methyl group or by an R<sub>6</sub>O-CO or R<sub>6</sub>O-CO-methyl group, while R<sub>5</sub> and R<sub>6</sub> are defined as in claim 4,

a pyrrolidino or piperidino group which is substituted by an  $R_6O-CO$  or  $R_6O-CO-$  methyl group wherein  $R_6$  is defined as in claim 4,

a pyrrolidino or piperidino group which is substituted by two  $R_6O-CO$  or  $R_6O-CO-$  methyl groups wherein  $R_6$  is defined as in claim 4,

a piperazino group which is substituted in the 4 position by an  $R_6O-CO-C_{1-4}$ -alkyl, bis- $(R_6O-CO)-C_{1-4}$ -alkyl or  $(R_7O-PO-OR_8)-C_{1-2}$ -alkyl group wherein  $R_6$  to  $R_8$  are defined as in claim 4,

a piperidiny group substituted in the 1 position by an  $R_6O-CO-C_{1-2}$ -alkyl group wherein  $R_6$  is defined as in claim 4,

or a tautomer or salt thereof.

16. (amended) A compound of the formula I according to claim 15, wherein  $R_b$  denotes a 1-phenylethyl group wherein the phenyl nucleus is substituted in each case by the groups  $R_1$  to  $R_3$ , wherein

$R_1$  and  $R_2$ , which may be identical or different, each denote a hydrogen, fluorine, chlorine or bromine atom or a methyl group and

$R_3$  denotes a hydrogen atom,

or a tautomer or salt thereof.

17. (amended) A compound selected from the group consisting of:

(a) 4-[(3-bromophenyl)amino]-7-(3-{4-[(ethoxycarbonyl)methyl]-piperazin-1-yl}propyloxy)-6-[(vinylcarbonyl)amino]-quinazoline,

(b) 4-[(3-bromophenyl)amino]-7-(3-{4-[3-(ethoxycarbonyl)propyl]-piperazin-1-yl}propyloxy)-6-[(vinylcarbonyl)amino]-quinazoline,

(c) 4-[(3-bromophenyl)amino]-7-(1-{4-[(ethoxycarbonyl)methyl]-piperidin-4-yl}oxy)-6-[(vinylcarbonyl)amino]-quinazoline,

(d) 4-[(3-bromophenyl)amino]-7-(3-{4-[(diethoxyphosphoryl)methyl]-piperazin-1-yl}propyloxy)-6-[(vinylcarbonyl)amino]-quinazoline,

(e) 4-[(3-bromophenyl)amino]-7-(3-{N-[(ethoxycarbonyl)methyl]-N-methylamino}propyloxy)-6-[(vinylcarbonyl)amino]-quinazoline,

(f) 4-[(3-bromophenyl)amino]-6-[(4-{N-[(ethoxycarbonyl)methyl]-N-methylamino}-1-oxo-2-buten-1-yl)amino]-quinazoline,



(g) 4-[(3-bromophenyl)amino]-6-[(4-{N-[(diethoxyphosphoryl)methyl]-N-methylamino}-1-oxo-2-buten-1-yl)amino]-7-methoxy-quinazoline,

(h) (R)-4-[(1-phenylethyl)amino]-6-[(4-{N-[(ethoxycarbonyl)methyl]-N-methylamino}-1-oxo-2-buten-1-yl)amino]-7-methoxy-quinazoline,

(i) 4-[(3-bromophenyl)amino]-6-[(4-{N-(2,2-dimethoxyethyl)-N-methylamino}-1-oxo-2-buten-1-yl)amino]-7-methoxy-quinazoline,

(j) 4-[(3-bromophenyl)amino]-6-[(4-(2-ethoxy-morpholin-4-yl)-1-oxo-2-buten-1-yl)amino]-7-methoxy-quinazoline,

(k) 4-[(3-bromophenyl)amino]-3-cyano-6-[(4-{N-[(ethoxycarbonyl)methyl]-N-methylamino}-1-oxo-2-buten-1-yl)amino]-quinoline,

(l) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{4-[(ethoxycarbonyl)methyl]-piperazin-1-yl}-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline,

(m) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{N-[2-(ethoxycarbonyl)-ethyl]-N-[(ethoxycarbonyl)methyl]amino}-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline,

(n) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-(2-oxo-morpholin-4-yl)-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline,

(o) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{4-[(ethoxycarbonyl)methyl]-piperazin-1-yl}-1-oxo-2-buten-1-yl)amino]-7-cyclobutyloxy-quinazoline,

(p) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{4-[(ethoxycarbonyl)methyl]-piperazin-1-yl}-1-oxo-2-buten-1-yl)amino]-7-(2-cyclopropylethoxy)-quinazoline,

(q) (S)-4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-[2-(methoxycarbonyl)-pyrrolidin-1-yl]-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline,

(r) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{N-[(ethoxycarbonyl)methyl]-N-[2-(acetylsulphanyl)ethyl]amino}-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline, and

(s) 4-[(3-chloro-4-fluorophenyl)amino]-6-[(4-{N-[(ethoxycarbonyl)-methyl]-N-[2-(methylcarbonyloxy)ethyl]amino}-1-oxo-2-buten-1-yl)amino]-7-cyclopropylmethoxy-quinazoline,

or a salt thereof.

18. (amended) A physiologically acceptable salt of a compound according to claim 1.

19. (amended) A pharmaceutical composition comprising a compound according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 17 or a physiologically acceptable salt thereof and a pharmaceutically acceptable carrier or diluent.

20. (amended) A method for treating a benign or malignant tumour, a disease of the airways or lungs, polyps, a disease of the gastrointestinal tract, the bile duct or the gall bladder, kidneys or skin, which method comprises administering a therapeutically effective amount of a compound according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 17 or a physiologically acceptable salt thereof.